

What is Claimed is:

1. A rolling bearing with seal plate for transmission comprising: an inner race that has an outer peripheral surface formed with an inner ring raceway in an axially middle portion; an outer race that has an inner peripheral surface formed with an outer ring raceway in an axially middle portion; a plurality of rolling bodies that are rotatably located between the inner ring raceway and the outer ring raceway; and a seal plate that is made of synthetic resin and has peripheral edges such that one of the peripheral edges is attached to part of one of the inner race and outer race, while the other of the peripheral edges is made to come in sliding contact with part of the other of the inner race and outer race.
2. The rolling bearing unit with seal plate of Claim 1, wherein the peripheral surface of the other of the inner race and outer race is partly defined by a cylindrical surface in parallel to the center axis of the other race, and the other of the peripheral edges of the seal plate is defined by at least one seal lip that protrudes toward the cylindrical surface, and the at least one seal lip has a tip edge coming in sliding contact all the way around the cylindrical surface.
3. The rolling bearing with seal plate of Claim 2, wherein the other race is formed with shoulder sections between which the rolling bodies are held, and the cylindrical surface on which the tip edge of the seal lip comes in sliding

contact be a peripheral surface of the shoulder sections.

4. The rolling bearing with seal plate of one of Claims 2 and 3, wherein the tip edge of the second seal lip has a cross-section with reference to the axial direction substantially in a 'V' shape, protruding toward the cylindrical surface, and that the apex of the tip edge comes in sliding contact all the way around the circumference with the cylindrical surface.
5. The rolling bearing with seal plate of one of Claims 1 to 4, wherein the one of the peripheral edges of the seal plate is attached to part of one of the inner race and outer race, and the other of the peripheral edges of the seal plate comes in sliding contact with part of the other of the inner race and outer race, and the seal plate has a side surface on the outside in the axial direction that is inclined toward the inside in the axial direction toward the other of the inner peripheral edges.
6. The rolling bearing with seal plate of one of Claims 1 to 5, wherein the seal plate is made of a synthetic resin that is reinforced with a glass fiber.

7. A transmission comprising: a casing in which lubrication oil is held; an input shaft and output shaft which are rotatably supported inside the casing by rolling bearings constructed by one of Claims 1 to 6; a power transmission member on the drive side which is supported by and rotates with the input shaft;

a power transmission member on the follower side which is supported by the output shaft so as to be engaged with the power transmission member on the drive side for power transmission, so that it rotates with the output shaft as the input shaft rotates.